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(54) Title: FLUOROPOLYMER EMULSIONS

(57) Abstract: A core-shell emulsion polymer comprising A) a core composition comprising components (a) and (b): (a) from about 40 to about 95 % of styrene, alkyl substituted styrene, or alkyl (meth)acrylate; and (a) from about 5 to about 60 % of vinylidene chloride, vinyl chloride, or combinations thereof; and B) a shell composition components (c) and (d): (b) from about 50 to about 85 % of (I) $R_f(CH_2)_mZ-C(O)-C(R^1)=CH_2$ (II) $R_f^?(CH_2CF_2)_q(CH_2CH_2)_rZ-C(O)-C(R^1)=CH_2$, or (III) $R_f^?O(CF_2CF_2)_q(CH_2CH_2)_rZ-C(O)-C(R^1)=CH_2$ wherein R_1 is hydrogen, Cl, F or CH; Z is -O-, -NH- or -S-; R_f^1 and $R_f^?$ are each a C_4 or C_6 perfluoroalkyl; and R_f^3 is a C_2 C_7 perfluoroalkyl optionally interrupted by one to three ether oxygens; and (c) from about 15 to about 50 % of styrene, alkyl substituted styrene, or alkyl (meth)acrylate, provided that i) the core composition comprises from about 20 to about 75 % of the polymer; ii) when R_f^1 or R_f^2 has 4 carbons, R is CH_3 ; and iii) when R_f^3 has 2 or 3 carbons, R^1 is CH_3 .



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